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Filed/Conf. No. 09/24/2001 / Conf. No. 7922
Examiner/Group: Ann Y. Lam / 1641
Response mailed: 05 / 11 / 2005
Attorney File: DA7119US (#90036)

AMENDMENTS TO THE CLAIMS

1. (currently amended) A hypodermic injection system for injecting injectate from the forward end of an injectate holding container, said system comprising:

an ~~injection~~ injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a disposable container-holding member for holding the respective injectate containers [[both]] in position during the injection process for proper injection into the body and spaced from said injection housing, said disposable container-holding member having a front end, the forward end of the containers having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the containers; and

latching and release apparatus for releasably latching said disposable container-holding member to said housing during the injection process, and said latching and release apparatus spacing the at least one container and the front end of said disposable container-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said disposable container-holding member and the containers held by said disposable container-holding member from said housing without the need for any physical contact by the user for non-contaminating disposal after the injection process.

2. (currently amended) A system according to claim 1 wherein said housing houses at least two injectate containers, and said disposable container-holding member is a structure having openings for holding each of the injectate containers.

3 – 4. (canceled)

5. (original) A system according to claim 2 wherein said openings are dimensioned to be press fit with the injectate containers to hold the containers in place.

6. (previously presented) A system according to claim 1 wherein said housing has a front portion, said container-holding member comprises a front plate, and said latching and release apparatus includes a groove in one of said front plate and said housing and a releasable latching member in the other of said front plate and said housing for releasably entering said groove to latch said front plate to said housing.

7. (currently amended) A system according to claim 2 and further comprising an actuatable injectate release ~~means~~ device for applying pressure on the respective injectate containers to transmit injectate from said containers for the injection process, and a manually operable trigger device for actuating said injectate release device.

8. (original) A system according to claim 7 wherein said injectate release device comprises energy storage apparatus for storing energy to be applied to the respective injectate containers, and wherein said trigger device actuates said storage apparatus to cause said energy storage apparatus to apply energy to the respective containers and transmit the injectate from the containers.

9. (original) A system according to claim 7 wherein said energy storage apparatus comprises at least one spring, a latch for holding the spring in a set condition, and wherein said trigger device comprises a release trigger for releasing said latch to commence the injection process.

10. (currently amended) A system according to claim 1 wherein said locking and release apparatus comprises at least one locking member for cooperating with said container-holding member to lock said holding member to said housing, ~~means~~ releasing apparatus for releasing said locking member to enable said container-holding member to be properly positioned on said housing and for activating said locking member to lock said properly positioned container-holding member to said housing, and an ejection device for ejecting said container-holding member and the respective containers held by said holding member from said housing.

11. (canceled)

12. (currently amended) A hypodermic injection system according to claim 1 and further including at least two injectate containers, said container-holding member holding said containers in proper position.

13. (currently amended) A system according to claim 12 wherein said injectate containers are disposable cartridges, said cartridges each including an injectate channel having injectate nozzles, and wherein said container-holding member comprises cartridge holders for holding said cartridges for dispensing injectate through said respective channels during the injection process.

14. (original) A system according to claim 13 wherein at least one of said cartridges are inactive cartridges having pseudo-channels which are constructed to appear as injectate channels but are non-functional as channels, and said inactive cartridges have externally visible surfaces adjacent said pseudo-channels being coded to appear differently from corresponding surfaces of the active cartridges.

15. (currently amended) A system according to claim 12 wherein said injectate containers are disposable injectate cartridges, and wherein said container-holding member comprises cartridge-holding surfaces for holding said cartridges in position to dispense injectate, said injectate cartridges comprising:

an outer wall having an inner wall surface defining an inner chamber; and a plunger engaging said inner wall surface and being movable in said chamber, said plunger defining an injectate-holding portion of said chamber and said chamber having an injectate dispensing end having an exit nozzle, said dispensing end being configured to engage the respective cartridge-holding surfaces, said plunger being drivable into said injectate-holding portion to dispense the injectate through said respective nozzles from said respective cartridges during the injection process.

16 – 17. (canceled)

18. (original) A system according to claim 1 and further including a biasing device for placing sufficient pressure on said respective containers to force the injectate out of the containers at jet velocity.

19. (original) A system according to claim 12 wherein said injectate containers are six cartridges having injectate exits, said exits being disposed in a rectangular order having three pairs of opposing exits.

20. (canceled)

21. (original) A system according to claim 1 wherein said housing houses an injectate container, and said disposable holding member is a structure having openings for holding said injectate container.

22. (canceled)

23. (currently amended) A hypodermic injection system for dispensing injectate into a body, said system comprising:

an ~~injection~~ injector housing for including at least two injectate cartridges, each of the cartridges having a dispensing channel with an exit nozzle, and a plunger for moving through each of the cartridges to dispense injectate from the cartridges;

a holding member for holding the respective injectate cartridges in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, with said dispensing channels directed in a common direction, said holding member having a front end;

a latching and release apparatus included in or on said housing for latching said holding member to said housing and for releasing said holding member and the injectate cartridges held thereby for non-contaminating disposal after the injection process, said latching and release apparatus supporting said holding member and spacing the front end of said holding member away from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges;

a ram apparatus having separate rams, each movable with respect to one of the cartridges to move the respective plungers for forcing injectate from the cartridges through the dispensing channels and the individual exit nozzle;

a carriage movable from a set position to a dispensing position for moving said ram apparatus to develop pressures to effect the forcing of injectate from the cartridges during an injection process;

a spring apparatus movable from a cocked position for moving said carriage from the set position to the dispensing position;

a carriage resetting apparatus for moving said carriage from the dispensing position to the set position, and for recocking said spring apparatus, to enable the replacement of the injectate containers; and

a releasable latching device for latching said spring apparatus in the cocked position.

24. (previously presented) A system according to claim 23 and further including a jet injector housing wherein said jet injector housing houses said holding member, said ram apparatus, said carriage, said spring apparatus, said latching device, said carriage resetting apparatus and said releasable latching device.

25. (previously presented) A system according to claim 24 wherein the front end of said holding member has holes for gripping the forward ends of the respective cartridges, and further wherein said system comprises:

a guard plate near said holes for preventing the splashing of injectate and blood from said channels.

26. (original) A system according to claim 23 wherein said carriage resetting apparatus comprises a cam follower operatively connected to said carriage and a cam configured for moving said cam follower and said carriage from the dispensing position to the set position.

27. (original) A system according to claim 23 and further including a housing having a fixed wall for said spring apparatus, and wherein said spring apparatus comprises at least one spring having one end engaged with said fixed wall, and the other end movable to the cocked position when said

carriage moves to the set position, said set of springs moving said carriage from the set position to the dispensing position in response to release of said latching device.

28. (original) A system according to claim 27 wherein said spring apparatus further includes movable rods associated with the respective springs for guiding and positioning said springs, said rods having a wall for engaging the other end of the respective springs and being movable in response to movement of said carriage from the dispensing position to the set position for moving said respective springs to the cocked position and wherein said latching means comprises a first latching member extending from said housing and a second latching member on said rods, said first and second latching members having one condition for holding said rods and said respective springs in the cocked position and a second condition for releasing said rods and said respective springs, said respective springs then moving said carriage assembly to the dispensing position.

29. (original) A system according to claim 23 wherein said carriage assembly resetting apparatus comprises a cam follower operatively connected to said carriage and a cam movable from an initial position to a final position and configured for moving said cam follower to move said carriage from the dispensing position to the set position, and a trigger for moving said cam from the final position to the initial position and for releasing said latching device to release said latching device to effect the movement of said spring apparatus from the cocked position to move said carriage from the set position to the dispensing position.

30. (original) A system according to claim 28 and further including a solenoid responsive to sensing signals for releasing said first latching member to unlatch said spring means.

31. (previously presented) A system according to claim 23 wherein said carriage resetting apparatus is operable for moving said carriage from the dispensing position to the set position, and further comprising a drive apparatus movable for operating said resetting apparatus, said drive apparatus being configured to be moved by a correspondingly configured motor driven device.

32. (original) A system according to claim 31 wherein said carriage resetting apparatus is a cam follower for moving said carriage from the dispensing position to the set position, and said drive apparatus is a cam operatively connected to said cam follower, said cam being rotatable by a motor and configured to move said cam follower and said carriage from the dispensing condition to the set position, and said latching device latching said spring apparatus in the cocked position in response to movement of said carriage to the set position.

33. (currently amended) A system according to claim 31 wherein:

said housing further houses ~~a part other than the front end of said holding member~~, said ram apparatus, said carriage assembly, said spring apparatus, said carriage assembly resetting apparatus, said drive apparatus and said releasable latching device; and

said system further comprising a handle attached to said housing, said handle including:
a motor;

a movable tool driven by said motor for engaging said drive apparatus to operate said carriage resetting apparatus for moving said carriage from the dispensing position to the set position; and

a power input apparatus for supplying electric power to said motor.

34. (previously presented) A system according to claim 31 and further including:

a housing for housing a part other than the front end of said holding member, said ram means, said carriage, said spring apparatus, said carriage resetting apparatus, said drive apparatus and said releasable latching device; and

a loading station for cooperating with said housing to operate said carriage resetting apparatus, said loading station including a movable tool for engaging said drive apparatus to operate said carriage resetting apparatus for moving said carriage from the dispensing position to the set position.

35. (original) A system according to claim 23 and further including sensing apparatus for emitting a sensing signal to indicate the presence or absence of at least one cartridge held by said holding

member, and wherein said releasable latching device operates in response to the presence or absence of the sensing signal.

36. (withdrawn) A station for re-energizing a hypodermic injection system, the injection system having a mechanical energy storing apparatus for releasing stored energy when the system makes an injection, the mechanical energy storing apparatus having an input mechanism for cooperating with a re-energizing mechanism, said station comprising:

an energy transferring apparatus for transferring energy from an energy source;

a re-energizing mechanism for transmitting energy from said energy transferring apparatus to the input mechanism of the energy storing apparatus, said re-energizing mechanism cooperating with the input mechanism to effect the transmission of energy from said energy transferring apparatus to the mechanical energy storing apparatus.

37. (withdrawn) A station according to claim 1 wherein the injection system has a predetermined external configuration and the input mechanism has a drivable surface for receiving energy to be stored in the energy storing apparatus, and wherein said re-energizing apparatus has a drive surface for cooperating with the drivable surface to re-energize the energy storing apparatus of the injection system.

38. (withdrawn) A station according to claim 37 wherein the input mechanism comprising a cam mounted on an axle and the drivable surface is a surface of the axle, and wherein said drive surface of said re-energizing apparatus is a device for contacting the drivable surface and rotating the axle to rotate the cam.

39. (withdrawn) A station according to claim 37 wherein the injection system has a predetermined external configuration, and said station includes at least one nesting apparatus for receiving and supporting the injection system, and wherein said drive surface cooperates with the drivable surface of the injection system to re-energize the energy storing apparatus of the system.

40. (withdrawn) A system according to claim 39 wherein the energy storing apparatus of the injection system is at least one spring, and said re-energizing mechanism cocks the spring.

41. (withdrawn) A station according to claim 40 wherein the injection system further includes a rotatable cam for operating a device to cock the spring and the drivable surface is connected to the cam, and wherein said drive surface cooperates with the drivable surface to rotate the cam and cock the spring.

42. (withdrawn) A station according to claim 39 wherein the injection system includes apparatus for receiving disposable cartridges holding injectate, and wherein said station further including a supporting device to hold the injection system for reloading the injection system with fresh cartridges containing injectate.

43. (withdrawn) A station according to claim 36 wherein said re-energizing mechanism includes a manually operable member for transmitting energy from a person operating said member to the mechanical energy storing apparatus.

44. (withdrawn) A station according to claim 36 wherein said re-energizing mechanism includes a compressed gas operable member for transmitting energy from the compressed gas to the mechanical energy storing apparatus.

45. (withdrawn) A station according to claim 36 wherein said re-energizing mechanism includes an hydraulically operable member for transmitting energy from the device exerting pressure on the hydraulic fluid to the mechanical energy storing apparatus.

46. (withdrawn) A station according to claim 36 wherein said re-energizing mechanism includes an ignitable gas operable member for transmitting the ignition energy to the mechanical energy storing apparatus.

47. (withdrawn) A station according to claim 36 wherein said re-energizing mechanism includes an electrically operable member for transmitting electrical energy to the mechanical energy storing apparatus.

48. (withdrawn) A hypodermic injection system comprising:

an injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a container-holding member attached to said housing for holding the respective injectate containers in position(s) spaced from said housing, the forward end of the at least one container having no physical contact with said housing to avoid contamination of said housing during or after use, said holding member holding the container(s) in position during the injection process for proper injection into the body, said holding member having a front end;

latching and release apparatus incorporated in or on said housing for releasably latching said holding member to said housing during the injection process, and for releasing said holding member and the containers held by said holding member from said housing without any physical contact by the user, for non-contaminating disposal after the injection process, said latching and release apparatus supporting said holding member spacing the front end of said holding member from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges;

an actuable injectate release device for applying pressure on the respective injectate containers to transmit injectate from said containers for the injection process, said injectate release device comprises energy storage apparatus for storing energy to be applied to the respective injectate containers; and

a manually operable trigger device;

wherein said trigger device actuates said storage apparatus to cause said energy storage apparatus to apply energy to the respective containers and transmit the injectate from the containers.

49. (currently amended) A hypodermic injection system ~~comprising~~ comprising according to claim 1 wherein the injectate containers are injectate cartridges, and said ~~an~~ injector housing for

housing houses at least two injectate cartridges ~~for an injectate to be injected from the system into a body~~, the cartridges having perforators for piercing the skin of a body and through which injectate flows during an injection process;

~~[[a]] wherein said disposable container-holding member is incorporated in or on said housing for holding the respective injectate cartridges in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, said holding member holding the cartridges in position during the injection process for proper injection into the body; and~~

~~latching and release apparatus included in said injector housing for releasably latching said holding member and the cartridges held by said holding member from said housing without any physical contact by the user, and for releasing said holding member and the cartridges held thereby for non-contaminating disposal after the injection process, said latching and release apparatus supporting said holding member and spacing the front end of said holding member away from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges.~~

50. (withdrawn) A hypodermic injection system having an injection housing for dispensing injectate from at least two injectate cartridges, each of the cartridges having a dispensing channel with an exit nozzle, and a plunger for moving through each of the cartridges to dispense injectate from each of the cartridges; said system comprising:

a holding member for holding said respective injectate cartridges in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, with said dispensing channels directed in a common direction;

a latching and release apparatus included in or on said housing for latching said holding member to said housing and for releasing said holding member and the injectate cartridges

held thereby, said latching and release apparatus supporting said holding member spacing the front end of said holding member from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges;

a ram apparatus having separate rams, each of said rams being movable with respect to one of said cartridges to move the respective plungers for forcing injectate from said cartridges through the dispensing channels and the individual exit nozzle;

a carriage movable from a set position to a dispensing position for moving said ram apparatus to apply pressure during an injection process;

a spring apparatus movable from a cocked position for moving said carriage from the set position to the dispensing position;

a carriage resetting apparatus for moving said carriage from the dispensing position to the set position, and for re-cocking said spring apparatus, to enable the replacement of the injectate containers; and

a releasable latching device for latching said spring apparatus in the cocked position.

51. (withdrawn) A hypodermic injection system comprising:

an injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a holding member for holding the respective injectate container(s) in positions spaced from said housing, the forward end of the containers having no physical contact with said housing to avoid contamination of the housing during or after use, said holding member holding in position during the injection process for proper injection into the body; and

latching and release apparatus included in or on said housing for releasably latching said containers held by said member from said housing without any physical contact by the user, for non-contaminating disposal after the injection process, said latching and release apparatus supporting said holding member spacing the front end of said holding member from said housing to avoid

contact of said housing with any contaminant on the front end of said holding member or the containers.

52. (currently amended) A hypodermic injection system ~~comprising~~ according to claim 1 and further including at least one injectate-holding container, said at least one injectate-holding container comprising at least one disposable injectate cartridge, wherein:

~~an injector housing for housing at least one disposable injectate cartridge for an injectate to be injected from the system into a body;~~

~~disposable injectate cartridges in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, said cartridges each including:~~

said at least one injectate cartridge comprises:

an outer wall having an inner wall surface defining an inner chamber;

and

a plunger engaging said inner wall surface and being movable in said chamber; said plunger defining an injectate-holding portion of said chamber, said injectate-holding portion of at least one of said cartridges comprising a rupturable seal dividing said holding portion into two compartments, one of said compartments holding a lyophilized part of an injectate and the other of said compartments holding a predetermined amount of fluid for mixing the components of the injectate; and said chamber having an injectate dispensing end having an exit nozzle, said plunger being drivable into said injectate-holding portion to dispense the injectate through said respective nozzles from said respective cartridges during the injection process;

~~manually actuatable latching and release apparatus for releasably latching of said cartridges held by said member to said housing during the injection process, and for releasing said cartridge held by said member from said housing without any physical contact by the user, said latching and release apparatus supporting said cartridges and spacing the front end of said cartridges~~

~~from said housing to avoid contact of said housing with any contaminant on the front end of said cartridges, for non-contaminating disposal after the injection process; and~~

and wherein said hypodermic injection system further comprises a device for rupturing the seal of said cartridges.

53. (currently amended) A hypodermic injection system according to claim 1, wherein said comprising:

~~an injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;~~

~~a container holding member attachable to said housing for holding the respective injectate containers in position(s) spaced from said housing, the forward end of the at least one container having no physical contact with said housing to avoid contamination of said housing during or after use, said member holding the container(s) in position during the injection process for proper injection into the body; and~~

~~latching and release apparatus included in or on said housing for releasably latching said holding member to said housing during the injection process, and for releasing alternatively releases said holding member and the containers held by said holding member from said housing, alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user, said latching and release apparatus supporting said holding member, spacing the front end of said holding member from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges.~~

54. (previously presented) A hypodermic injection system according to claim 53 wherein said container-holding member is configured to hold at least two injectate containers, and said system has exit nozzles arranged to inject injectate while preventing the overlap of the injectate from each exit nozzle during the injection process.

55. (previously presented) A hypodermic injection system according to claim 54 wherein said container-holding member is configured to hold six injectate containers, and said exit nozzles include six exit nozzles arranged in a geometric pattern having a compact configuration while preventing overlapping of the injectate coming from the exit nozzles during an injection process.

56. (canceled)

57. (previously presented) A hypodermic injection system according to claim 55 wherein said geometric pattern is a circle, with five exit nozzles equally disposed around the perimeter of the circle, and one exit nozzle disposed at the center of the circle.

58. (previously presented) A hypodermic injection system according to claim 55 wherein said geometric pattern is a circle, and said six exit nozzles are equidistantly disposed around the perimeter of the circle.

59. (withdrawn) A hypodermic injection system comprising:

an injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a container-holding member for holding the respective injectate containers in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, said container-holding member holding the containers in position during the injection process for proper injection into the body;

latching and release apparatus included in or on said housing for releasably latching said holding member to said housing during the injection process, and for releasing said holding member and the containers held by said holding member from said housing alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user, said latching and release apparatus supporting said holding

member, spacing the front end of said holding member from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges;

an actuatable injectate release device for applying pressure on the respective injectate containers to transmit injectate from said containers for the injection process, said injectate release device comprises energy storage apparatus for storing energy to be applied to the respective injectate containers; and

a manually operable trigger device;

wherein said trigger device actuates said storage apparatus to cause said energy storage apparatus to apply energy to the respective containers and transmit the injectate from the containers.

60. (currently amended) A hypodermic injection system ~~comprising:~~ according to claim 1 wherein the injectate-holding container is at least two injectate-holding cartridges, and wherein said

~~[[an]] injector housing is provided for housing at least two injectate cartridges for an injectate to be injected from the system into a body, the cartridges having perforators for piercing the skin of a body and through which injectate flows during an injection process [[:]]~~

~~a holding member for holding the respective injectate cartridges in position in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, said holding member holding the cartridges during the injection process for proper injection into the body; and~~

~~latching and release apparatus for releasably latching said cartridges held by said member from said housing alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user, said latching and release apparatus supporting said holding member spacing the front end of said holding member~~

~~from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges.~~

61. (currently amended) A hypodermic injection system according to claim 23 wherein ~~said having an injection housing for dispensing injectate from at least two injectate cartridges, each of said cartridges having a dispensing channel with an exit nozzle, and a plunger for moving through each of the cartridges to dispense injectate from each of the cartridges; said system comprising:~~

~~a holding member for holding said respective injectate cartridges in positions spaced from said housing, the forward end of the cartridges having no physical contact with said housing to avoid contamination of the housing during or after use, with said dispensing channels directed in a common direction;~~

~~a ram apparatus having separate rams, each movable with respect to one of said cartridges to move the respective plungers for forcing injectate from said cartridges through the dispensing channels and the individual exit nozzle;~~

~~a latching and release apparatus included in or on said housing for latching said holding member to said housing and for releasing said holding member on the injectate cartridges held thereby, said latching and release apparatus supporting said holding member and spacing the front end of said holding member away from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges;~~

~~a carriage movable from a set position to a dispensing position for moving said ram apparatus to apply pressure during an injection process;~~

~~a spring apparatus movable from a cocked position for moving said carriage from the set position to the dispensing position;~~

~~[[a]] carriage resetting apparatus for moving said carriage from the dispensing position to the set position, and further includes a device for re-cocking said spring apparatus, to enable the replacement of the injectate containers alternatively either without physical contact of the~~

containers by the user of said system, or with the physical contact of the containers by the user of the system;~~and~~

~~a releasable latching device for latching said spring apparatus in the cocked position.~~

62. (withdrawn) A hypodermic injection system comprising:

an injector housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a member for holding the respective injectate container(s) in position(s) spaced from said housing, the forward end of the at least one container having no physical contact with said housing to avoid contamination of said housing during or after use, said member holding the container(s) in position during the injection process for proper injection into the body; and

manually actuable latching and release apparatus for releasably latching said containers held by said member from said housing alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user, said latching and release apparatus spacing the front end of said container(s) from said housing to avoid contact of said housing with any contaminant on the front end of said container(s).

63. (currently amended) A hypodermic injection system according to claim 52 wherein said at least one injectate cartridge comprises at least two injectate cartridges, and wherein said hypodermic injection system further comprises ~~comprising~~:

~~an injector housing for housing at least one disposable injectate cartridge for an injectate to be injected from the system into a body;~~

~~at least two disposable injectate cartridges releasably held in said injector housing, an actuable apparatus on said housing for the non-physical contact release by a user of said cartridges, each of said cartridges including: and~~

apparatus for simultaneously effecting the release of injectate from said at least two injectate cartridges during an injection process;

~~an outer wall having an inner wall surface defining an inner chamber;~~
and

~~a plunger engaging said inner wall surface and being movable in said chamber; said plunger defining an injectate holding portion of said chamber, said injectate holding portion of at least one cartridge comprising a rupturable seal dividing said holding portion into two compartments, one of said compartments holding a lyophilized part of an injectate and the other of said compartments holding a predetermined amount of fluid for mixing the components of the injectate; and said chamber having an injectate dispensing end having an exit nozzle, said plunger being drivable into said injectate holding portion to dispense the injectate through said respective nozzles from said respective cartridges during the injection process;~~

~~and wherein said latching and release apparatus for releasably latching of said cartridges to said housing during the injection process, and for releasing said cartridge held by alternatively releases said holding member from said housing, alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user[[;]]~~

~~a device for rupturing the seal of said cartridges; and~~

~~apparatus for simultaneously effecting the release of injectate from said at least two injectate cartridges during an injection process.~~

64. (withdrawn) A hypodermic injection system for dispensing injectate into a body, said system comprising:

an injection housing including at least two injectate cartridges, each of said cartridges having a dispensing channel with an exit nozzle, and a plunger for moving through each of the cartridges to dispense injectate from the cartridges;

a holding member for holding the respective injectate cartridges with said dispensing channels directed in a common direction;

a latching and release apparatus included in or on said housing for latching said holding member to said housing and for releasing said holding member and the injectate cartridges held thereby for non-contaminating disposal after the injection process;

a ram apparatus having separate rams, each movable with respect to one of said cartridges to move the respective plungers simultaneously for forcing injectate simultaneously from said cartridges through the dispensing channels and the individual exit nozzles;

a carriage movable from a set position to a dispensing position for moving said ram apparatus at uniform pressures during an injection process;

a spring apparatus movable from a cocked position for moving said carriage from the set position to the dispensing position;

a carriage resetting apparatus for moving said carriage from the dispensing position to the set position, and for recocking said spring apparatus, to enable the replacement of the injectate containers; and

a releasable latching device for latching said spring apparatus in the cocked position.

65. (withdrawn) A system according to claim 64 and further including a jet injector housing wherein said housing is for housing said holding member, said ram apparatus, said carriage, said spring apparatus, said latching device, said carriage resetting apparatus and said releasable latching device.

66. (withdrawn) A hypodermic injection system according to claim 64 wherein said latching and release apparatus ~~supporting~~ supports said holding member spacing the front end of said holding member away from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the cartridges.

67. (withdrawn) A hypodermic system for dispensing injectate into a body for at least two containers having a discharge end, said system comprising:

an injection housing for including at least two injectate containers, each container discharging injectate from the respective discharge ends in response to the application of a predetermined force to the injectate in the container;

a holding member for holding the at least two injectate containers with the respective discharge ends facing in a common direction, said holding member having a front end;

a latching and release apparatus included in or on said housing for releasably latching said holding member to said housing and for releasing said holding member for non-contaminating disposal after the injection process, said latching and release apparatus supporting said holding member and spacing the front end of the holding member away from the housing to avoid contact of said housing with any contaminant on the front end of said holding member or the containers; and

apparatus for simultaneously applying a predetermined force simultaneously to the injectate in the containers to effect the simultaneous discharge of injectate from the containers.

68. (previously presented) A hypodermic injector system according to claim 1 wherein said latching and release apparatus is manually actuable.

69. (withdrawn) A hypodermic injector system according to claim 23 wherein said latching and release apparatus is manually actuable.

70. (withdrawn) A hypodermic injector system according to claim 48 wherein said latching and release apparatus is manually actuable.

71. (withdrawn) A hypodermic injector system according to claim 49 wherein said latching and release apparatus is manually actuable.

72. (withdrawn) A hypodermic injector system according to claim 50 wherein said latching and release apparatus is manually actuable.

73. (withdrawn) A hypodermic injector system according to claim 51 wherein said latching and release apparatus is manually actuable.

74. (withdrawn) A hypodermic injector system according to claim 53 wherein said latching and release apparatus is manually actuatable.

75. (withdrawn) A hypodermic injector system according to claim 59 wherein said latching and release apparatus is manually actuatable.

76. (withdrawn) A hypodermic injector system according to claim 60 wherein said latching and release apparatus is manually actuatable.

77. (withdrawn) A hypodermic injector system according to claim 61 wherein said latching and release apparatus is manually actuatable.

78. (withdrawn) A hypodermic injector system according to claim 63 wherein said latching and release apparatus is manually actuatable.

79. (withdrawn) A hypodermic injector system according to claim 67 wherein said latching and release apparatus is manually actuatable.

80. (withdrawn) A hypodermic injection system for injecting injectate from the forward end of an injectate-holding container, said system comprising:

an injection housing for housing at least two injectate-holding containers for an injectate to be injected from the system into a body;

a disposable container-holding member for holding the respective injectate-holding containers both in position during the injection process for proper injection into the body and spaced from said injection housing, said container-holding member having a front end, the forward end of the containers having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the injectate-holding containers, and said container-holding member comprising a structure having openings for holding each of the injectate-holding containers;

latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the at least one injectate-holding container and the front end of said container-holding member away from the housing

to avoid contaminating the housing, said latching and release apparatus releasing said container-holding member and the injectate-holding containers held by said container-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process; and

guard walls around said openings for preventing splashing of the injectate or blood during an injection process.

81. (withdrawn) A hypodermic injection system for injecting injectate from the forward end of an injectate holding container, said system comprising:

an injection housing for housing at least two injectate containers for an injectate to be injected from the system into a body;

a disposable container-holding member for holding the respective injectate containers both in position during the injection process for proper injection into the body and spaced from said injection housing, said container-holding member having a front end, the forward end of the containers having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the containers, and said container-holding member comprising a structure having openings for holding each of the containers;

latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the at least one container and the front end of said container-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said holding member and the containers held by said container-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process; and

splash wall guards around the outer edge of said container holding member for preventing the splashing of the injectate or blood during an injection process.

82. (withdrawn) A hypodermic injection system for injecting injectate from the forward end of an injectate holding container, said system comprising:

an injection housing for housing at least one injectate container for an injectate to be injected from the system into a body;

a container-holding member for holding the respective injectate containers both in position during the injection process for proper injection into the body and spaced from said injection housing, said container-holding member comprising a front end and a plate with a peripheral edge having a groove, the forward end of the containers having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the containers; and

latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the at least one container and the front end of said container-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said holding member and the containers held by said container-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process; said latching and release apparatus comprising:

at least one locking member for cooperating with said container-holding member to lock said holding member to said housing, said at least one locking member enters said groove of said container-holding member plate to lock said plate to said injection housing and said locking member being removable from said groove to release said plate;

releasing means for releasing said locking member to enable said holding member to be properly positioned on said housing and for activating said locking member to lock said properly positioned holding member to said housing; and

an ejection device for ejecting said holding member and the respective containers held by said holding member from said housing.

83. (withdrawn) A hypodermic injection system comprising:

at least two disposable injectate cartridges, each of said cartridges comprising:

an outer wall having an inner wall surface defining an inner chamber, and

a plunger engaging said inner wall surface and being movable in said chamber, said plunger defining an injectate-holding portion of said chamber and said chamber having an injectate dispensing end having an exit nozzle, said dispensing end being configured to engage the respective cartridge-holding surfaces, said plunger being drivable into said injectate-holding portion to dispense the injectate through said respective nozzles from said respective cartridges during the injection process;

said injectate-holding portion comprising a rupturable seal dividing said holding portion into two compartments, one of said compartments holding a lyophilized part of an injectate and the other of said compartments holding a predetermined amount of fluid for mixing the components of the injectate.

an injection housing for housing at least two injectate cartridges for an injectate to be injected from the system into a body;

a cartridge-holding member for holding the respective at least two injectate cartridges both in proper position during the injection process for proper injection into the body and spaced from said injection housing, said cartridge-holding member having a front end, the forward end of the respective cartridges having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the cartridges; and

latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the respective cartridges and the front end of said cartridge-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said holding member and the respective cartridges held by said cartridge-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process.

84. (withdrawn) A system according to claim 83 and further including a device for rupturing said seal.

85. (withdrawn) A hypodermic injection system comprising:

- at least two injectate cartridges having perforators for piercing the skin of a body and through which injectate flows during an injection process;
- an injection housing for housing at least two injectate cartridges for an injectate to be injected from the system into a body;
- a cartridge-holding member for holding the respective injectate cartridges both in position during the injection process for proper injection into the body and spaced from said injection housing, said cartridge-holding member having a front end, the forward end of the cartridges having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the cartridges; and
- latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the at least two cartridges and the front end of said cartridge-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said holding member and the cartridges held by said cartridge-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process.

86. (withdrawn) A hypodermic injection system for injecting injectate from the forward end of an injectate holding container, said system comprising:

- an injection housing for housing at least one injectate container for an injectate to be injected from the system into a body;
- a disposable container-holding member for holding the respective injectate containers both in position during the injection process for proper injection into the body and spaced from said injection housing, said container-holding member comprising a structure having a front end and

openings for holding said respective injection containers, the forward end of the respective containers having no physical contact with said injection housing to avoid contact with any contamination on the forward end of the respective containers;

latching and release apparatus for releasably latching said holding member to said housing during the injection process, and said latching and release apparatus spacing the at least one container and the front end of said container-holding member away from the housing to avoid contaminating the housing, said latching and release apparatus releasing said holding member and the containers held by said container-holding member from said housing without any physical contact by the user for non-contaminating disposal after the injection process; and

a guard wall around said openings of the respective containers for preventing splashing of the injectate or blood during an injection process.

87. (withdrawn) A hypodermic injection system comprising:

an injector housing for housing at least six injectate containers for an injectate to be injected from the system into a body;

a container-holding member attachable to said housing for holding the respective injectate containers in position(s) spaced from said housing, the forward end of the at least six containers having no physical contact with said housing to avoid contamination of said housing during or after use, said member holding the container(s) in position during the injection process for proper injection into the body;

latching and release apparatus included in or on said housing for releasably latching said holding member to said housing during the injection process, and for releasing said holding member and the containers held by said holding member from said housing, alternatively either without any physical contact by the user, for non-contaminating disposal after the injection process, or with physical contact by the user, said latching and release apparatus supporting said holding

member, spacing the front end of said holding member from said housing to avoid contact of said housing with any contaminant on the front end of said holding member or the containers; and

at least six exit nozzles arranged in a rectangular geometric pattern with one of said exit nozzles at each corner and a pair of exit nozzles at the midpoint of opposing long sides of the rectangular pattern, to inject injectate while preventing the overlap of the injectate from each exit nozzle during the injection process.

88. (new) A hypodermic injection system according to claim 1, wherein said injectate release device includes energy storage apparatus for storing energy to be applied to the respective injectate containers, said energy storage apparatus including an input mechanism for cooperating with a re-energizing mechanism, and wherein said hypodermic injection system further comprises:

a station for re-energizing said energy storage apparatus, said station comprising:

an energy transferring apparatus for transferring energy from an energy source;

a re-energizing mechanism for transmitting energy from said energy transferring apparatus to the input mechanism of the energy storing apparatus, said re-energizing mechanism cooperating with the input mechanism to effect the transmission of energy from said energy transferring apparatus to the mechanical energy storing apparatus.

89. (new) A hypodermic injection system according to claim 1 wherein said front end of said container-holding member comprises guard walls around said front end for preventing the splashing of injectate or blood during the injection process.

90. (new) A hypodermic injection system according to claim 13 wherein said injection nozzles are at least one orifice in the ends of said respective cartridges.

91. (new) A hypodermic injection system according to claim 34 wherein said loading station further includes a motor for operating said movable tool.

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